

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 09198726
PUBLICATION DATE : 31-07-97

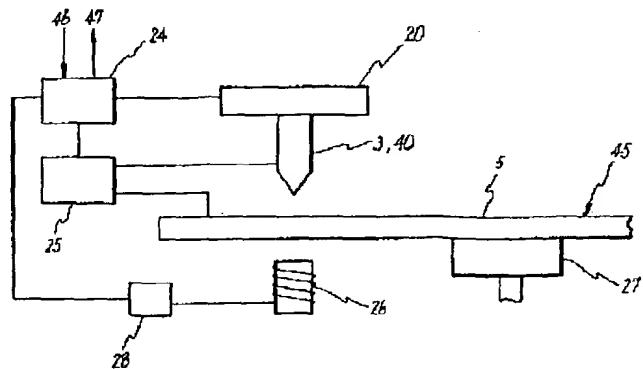
APPLICATION DATE : 18-01-96
APPLICATION NUMBER : 08024697

APPLICANT : HITACHI MAXELL LTD;

INVENTOR : OTA NORIO;

INT.CL. : G11B 9/00 G11B 5/02

TITLE : RECORDING AND REPRODUCING DEVICE



ABSTRACT : PROBLEM TO BE SOLVED: To provide a novel recording/reproducing device which is capable of magnetically recording and reproducing information on an atomic level.

SOLUTION: The recording/reproducing device is provided with a probe 40 which has a monoatomic tip and is composed of anti-ferromagnetic material, a power source 25 for tunnel current measurement, a driving device 27 which scans a recording medium 45 with the probe 40 relatively to the medium and a magnetic coil 26 which impresses an external magnetic field. Information is recorded by heating the recording area of the magnetic film with the tunnel current while applying a magnetic field by the magnetic coil 26, and reversing the magnetization of the magnetic film. And, it is reproduced by detecting the tunnel current which corresponds to the direction of magnetization of the magnetic film. The probe can be composed of magnetic artificial lattice film material in the anti-ferromagnetic binding condition. Because no magnetic field leakage coming from the probe 3, 40 exists, the recorded information is not destroyed, but magnetic information is reproduced irrespective of unevenness of the surface of the recording medium by using a probe having an optical waveguide.

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